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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>152/4PCRO</b>	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. <b>PCT/FI2003/000754</b>	International filing date (day/month/year) <b>10.10.2003</b>	Priority date (day/month/year) <b>29.10.2002</b>
International Patent Classification (IPC) or national classification and IPC <b>A44B 19/32, A44B 19/26, A44B 19/34</b>		
Applicant <b>Stenhäll, Turo</b>		

- This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 6 sheets, including this cover sheet.
- This report is also accompanied by ANNEXES, comprising:

- ☒ (sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:
  - ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
  - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

- ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

- This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand  <b>07.05.2004</b>	Date of completion of this report  <b>27.01.2005</b>
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Form PCT/IPEA/409 (cover sheet) (January 2004)

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/FI2003/000754

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- ☐ international search (under Rules 12.3 and 23.1(b))  
☐ publication of the international application (under Rule 12.4)  
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1 - 7 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the claims:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ as amended (together with any statement) under Article 19

pages\* 8 - 9 received by this Authority on 16.08.2004

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the drawings:

pages 1 as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets/figs \_\_\_\_\_  
☐ the sequence listing (*specify*): \_\_\_\_\_  
☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets/figs \_\_\_\_\_  
☐ the sequence listing (*specify*): \_\_\_\_\_  
☐ any table(s) related to the sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-7</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-7</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-7</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

**CITED DOCUMENTS IN THE INTERNATIONAL SEARCH REPORT**

D1: US5008986A  
D2: US5628094A  
D3: EP1057423A1  
D4: EP1175842A2  
D5: EP1201144A2  
D6: US5444898A

**INVENTION**

The invention discloses a water repellent slide fastener, comprising a pair of zipper tapes, to which are secured fastening elements which are unfastenable through the intermediary of a zipper slide. The zipper tapes are water repellent. An object of the invention is to provide a water repellent slide fastener which enables an easy-to-use, easy-sliding zipper, yet provides a reliable shield for water leakage and seepage. Another object is to provide a type of water repellent slide fastener, which does not leave a gap that lets moisture inside a garment when it is exposed to lateral tensile forces. This is obtained by first and second zipper tapes which are secured to the fastening elements asymmetrically relative to each other, such that the first one extends, in the form of an extension crossing a centre line between the tooth elements, over the second zipper tape to overlap a part of the second zipper tape. The second zipper tape has its other edge, the far edge relative to the garment, fitted with the fastening elements. The zipper tape, which has the extension, has the fastening elements secured to the point, from which the extension commences. The invention also relates to a zipper slide for use in association with the slide fastener.

.../...

## Supplemental Box

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

**DISCUSSION AND CONCLUSION***Claims 1-7*

D1 discloses a slide fastener for footwear or protective garments constituted of two support tapes (13), chains of teeth (11) and a slide-tab (16). One object of the invention is to obtain optimal seal, against dirt as well as snow and water. The chains of teeth (11) of the slide fastener are connected to their respective support tape (13) and mounted, brought together, such that they are located raised on the single side (13'') of said tapes adapted to be turned towards the inside of said footwear or garment. According to an alternative embodiment, the chains of teeth (11) are affixed at a distance substantially less than that corresponding to the depth of nesting of the teeth or spirals (12). Thus, when the chains of teeth (11) are interlocked with one another by means of the slide (16), the borders (15) of the tapes (13) are applied with a certain pressure against one another or overlapping which, in every case, improves the imperviousness of slide fastener (1). See column 2, line 56-line 64.

The invention in claim 1 differs from the one in D1 in that the first and second zipper tapes are secured to the fastening elements asymmetrically relative to each other such that the second zipper tape has its other edge, the far edge relative to the garment, fitted with the fastening elements and in that the zipper tape, which has the extension, has the fastening elements secured to the point from which the extension commences.

The invention in claim 6 also differs from that in D1 for the same reasons as discussed above and in that the zipper slide has one of its body members formed with a recess for the extension of the zipper tape.

It is not considered obvious for a person skilled in the art to arrange the fastening elements to the zipper tapes in D1 as claimed in claim 1. Neither is it considered obvious for a person skilled in the art to arrange the zipper slide with a recess as claimed in claim 6. Accordingly, D1 does not disclose the characteristics in the characterising parts of claims 1 and 6. Consequently, there is no teaching in D1 leading a skilled person to the invention and therefore the claimed invention is not considered obvious for a person skilled in the art.

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Therefore, the invention according to claims 1-7 is novel, is considered to involve an inventive step and has industrial applicability.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 5 states "A slide fastener as set forth in any of claims 1-6...". According to the claims, claims 1-5 relate to a slide fastener and claims 6-7 relate to a zipper slide. Therefore, claim 5 should be dependent on the slide fastener as set forth in any of claims 1-4.

According to Rule 6.4 (c), all dependent claims referring back to a single previous claim, and all dependent claims referring back to several previous claims, shall be grouped together to the extent and in the most practical way possible.

Claims

1. A water repellent slide fastener, comprising a pair of zipper tapes (25, 26), to which are secured fastening elements (21, 22) which are unfastenable and fastenable through the intermediary of a zipper slide (30), said zipper tapes (25, 26) being water repellent, **characterized** in that the first and second zipper tapes (25, 26) are secured to the fastening elements (21, 22) asymmetrically relative to each other, such that the first one (25) extends, in the form of an extension (25X) crossing a centre line between the tooth elements, over the second zipper tape (26) to overlap a part of the second zipper tape (26), which has its other edge, the far edge relative to the garment, fitted with the fastening elements (22), and the zipper tape (25), which has the extension (25X), has the fastening elements secured to the point, from which the extension (25X) commences.
2. A slide fastener as set forth in claim 1, **characterized** in that the extension (25X) of one zipper tape (25) overlaps the other zipper tape (26) over the distance of 1-5 mm, commencing from the edge of the zipper tape (26) closer to the fastening elements (22).
3. A slide fastener as set forth in claim 1 or 2, **characterized** in that said extension (25X) substantially conceals the slide fastener's fastening elements (21, 22).
4. A slide fastener as set forth in claim 1, **characterized** in that the zipper tape (25, 26) has its stiffness adapted to be such that the extension (25X) of one zipper tape (25) applies at least a small weight against the other zipper tape (26).
5. A slide fastener as set forth in any of claims 1-6, **characterized** in that a slide fastener (13) is fitted to an article (10), e.g. a garment, a shoe, a bag,

or the like, in such a way that the zipper tape (25) has its extension (25X) positioned such that gravity denies the migration of water into possible gaps between the slide fastener's (13) fastening elements (21, 22) and/or into the slide fastener's centre slot.

6. A zipper slide (30) for use in association with a slide fastener as set forth in claim 1, **characterized** in that the zipper slide (30) has one (32) of its body members formed with a recess (33X) for the extension (25X) of the zipper tape (25).

7. A zipper slide (30) as set forth in claim 6, **characterized** in that the recess of the zipper slide (30) has a width of 1-5 mm and a depth of 0,2-0,8 mm, whereby the extension element (25X) of one zipper tape (25) presses against the other zipper tape (26).